

MORGAN OFFSHORE WIND PROJECT GENERATION ASSETS

Preliminary Environmental Information Report

Volume 1, chapter 4: Site selection and alternatives



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Final

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Glossary

Term	Meaning
Applicant	Morgan Offshore Wind Limited.
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Draft NPS	The draft national policy statements for energy that are undergoing consultation.
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Morgan Offshore Wind Project.
Evidence Plan Expert Working Group (EWG)	Expert working groups set up with relevant stakeholders as part of the Evidence Plan process.
Evidence Plan process	The Evidence Plan process is a mechanism to agree upfront what information the Applicant needs to supply to the Planning Inspectorate as part of the Development Consent Order (DCO) applications for the Morgan Offshore Wind Project Generation Assets.
Inter-array cables	Cables which connect the wind turbines to each other and to the offshore substation platforms. Inter-array cables will carry the electrical current produced by the wind turbines to the offshore substation platforms.
Interconnector cables	Cables that may be required to interconnect the Offshore Substation Platforms in order to provide redundancy in the case of cable failure elsewhere.
Marine licence	The Marine and Coastal Access Act 2009 requires a marine licence to be obtained for licensable marine activities. Section 149A of the Planning Act 2008 allows an applicant for a DCO to apply for 'deemed marine licences' as part of the DCO process.
Morgan Array Area	The area within which the wind turbines, foundations, inter-array cables, interconnector cables, offshore export cables and offshore substation platforms (OSPs) forming part of the Morgan Offshore Wind Project will be located.
Morgan Array Scoping Boundary	The Preferred Bidding Area that the Applicant was awarded by The Crown Estate as part of Offshore Wind Leasing Round 4.
Morgan Offshore Wind Project	The Morgan Offshore Wind Project is comprised of both the generation assets and offshore and onshore transmission assets and associated activities.
Morgan Offshore Wind Project Boundary	The area containing all aspects of the Morgan Offshore Wind Project, both offshore and onshore.
Morgan Scoping Report	The Morgan Generation Assets Scoping Report that was submitted to The Planning Inspectorate (on behalf of the Secretary of State) for the Morgan Offshore Wind Project.
Non-statutory consultee	Organisations that an applicant may choose to consult in relation to a project who are not designated in law but are likely to have an interest in the project.
NPS	The current national policy statements published by the Department of Energy and Climate Change in 2011.

Term	Meaning
Offshore Wind Leasing Round 4	The Crown Estate auction process which allocated developers preferred bidder status on areas of the seabed within Welsh and English waters and ends when the Agreements for Lease (AfLs) are signed.
Preferred Bidding Areas	The Applicant identified two Preferred Bidding Areas (Morgan and Mona) within the Northern Wales and Irish Sea Bidding Area. In February 2021, The Crown Estate awarded the Applicant the right to develop up to 1.5GW of wind capacity within each of the two Preferred Bidding Areas.
Round 4 HRA	The Plan Level Habitats Regulations Assessment undertaken by The Crown Estate for UK offshore leasing Round 4.
Secretary of State for the Department for Energy Security and Net Zero	The decision maker with regards to the application for development consent for the Morgan Offshore Wind Project Generation Assets.
Statutory consultee	Organisations that are required to be consulted by an applicant pursuant to the Planning Act 2008 in relation to an application for development consent. Not all consultees will be statutory consultees (see non-statutory consultee definition).
The Northern Wales and Irish Sea Bidding Area	The Northern Wales and Irish Sea Bidding Area was one of four Bidding Areas identified by The Crown Estate through the Offshore Wind Leasing Round 4 process.
The Planning Inspectorate	The agency responsible for operating the planning process for Nationally Significant Infrastructure Projects (NSIPs).
Wind turbines	The wind turbine generators, including the tower, nacelle and rotor.

Acronyms

Acronym	Description
AfL	Agreement for Lease
AEF	Archaeology Engagement Forum
CCS	Carbon Capture and Storage
CION	Connection and Infrastructure Operations Note
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
ECRA	Export Cable Route Assessment
EIA	Environmental Impact Assessment
EPP	Evidence Plan Process
ES	Environmental Statement
EWG	Expert Working Group
GHG	Greenhouse gas
HRA	Habitats Regulations Assessment

MORGAN OFFSHORE WIND PROJECT GENERATION ASSETS

Acronym	Description
JNCC	Joint Nature Conservation Committee
LSE	Likely Significant Effect
MCZ	Marine Conservation Zone
MMO	Marine Management Organisation
MNEF	Maritime Navigation Engagement Forum
MPA	Marine Protected Area
NE	Natural England
NGESO	National Grid Electricity System Operator
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
OTNR	Offshore Transmission Network Review
PEIR	Preliminary Environmental Information Report
SAC	Special Area of Conservation
SNCB	Statutory Nature Conservation Body
SoS	Secretary of State
SPA	Special Protection Area
TCE	The Crown Estate
UK	United Kingdom

4 Site Selection and Consideration of Alternatives

4.1 Introduction

4.1.1 Overview

4.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents a description of the site selection process and the approach undertaken by Morgan Offshore Wind Limited (the Applicant) to develop and refine the design of the Morgan Offshore Wind Project Generation Assets (hereafter Morgan Generation Assets).

4.1.1.2 This chapter sets out the stages of design iteration that the Morgan Generation Assets has been through, from inception to this PEIR submission. The site selection process is described in the following stages:

- Stage 1 - Identification of Agreement for Lease (AfL) area
- Stage 2 - Refinement of project for PEIR
- Stage 3 - Statutory consultation
- Stage 4 - Post statutory consultation stakeholder engagement
- Stage 5 - Final application boundary.

4.1.1.3 The chapter will be updated to include stages 3, 4 and 5 following the completion of statutory consultation and feedback on the PEIR. This will be incorporated prior to the application for the Development Consent Order (DCO) being submitted.

4.1.1.4 This Site Selection and Consideration of Alternatives chapter relates solely to the Morgan Generation Assets. The transmission assets associated with the Morgan Generation Assets will be the subject of a separate application for development consent and site selection and consideration of alternatives for those aspects will be presented as part of that application.

4.1.2 Purpose of chapter

4.1.2.1 The primary purpose of the PEIR is outlined in volume 1, chapter 1: Introduction of the PEIR. In summary, the primary purpose of an Environmental Statement is to support the DCO application for the Morgan Generation Assets under the Planning Act 2008 (the 2008 Act). This Preliminary Environmental Information Report sets out the findings of the Environmental Impact Assessment (EIA) to date to support the pre-application consultation activities required under the 2008 Act. The EIA will be finalised following completion of pre-application consultation and the Environmental Statement will accompany the application to the Secretary of State for Development Consent.

4.1.2.2 The PEIR forms the basis for statutory consultation which will last for 47 days and conclude on 4 June 2023. At this point, comments received on the PEIR will be reviewed and incorporated (where appropriate) into the Environmental Statement, which will be submitted in support of the application for the DCO scheduled for quarter one of 2024.

4.1.2.3 In particular, this PEIR chapter:

- Outlines the approach taken to define the spatial boundaries of the Morgan Generation Assets
- Explains the siting decisions taken to date by the Applicant
- Identifies future steps to be undertaken to refine the Morgan Generation Assets to application submission.

4.1.2.4 As the Morgan Generation Assets only comprises the Morgan Array Area this site selection chapter does not discuss the reasonable alternatives considered for the project. Reasonable alternatives will be considered for the transmission assets as part of the Morgan and Morecambe Offshore Wind Farms Transmission Assets as described in section 4.1.1.4.

4.1.3 Study area

4.1.3.1 Figure 4.1 identifies the proposed spatial area associated with the Morgan Generation Assets.

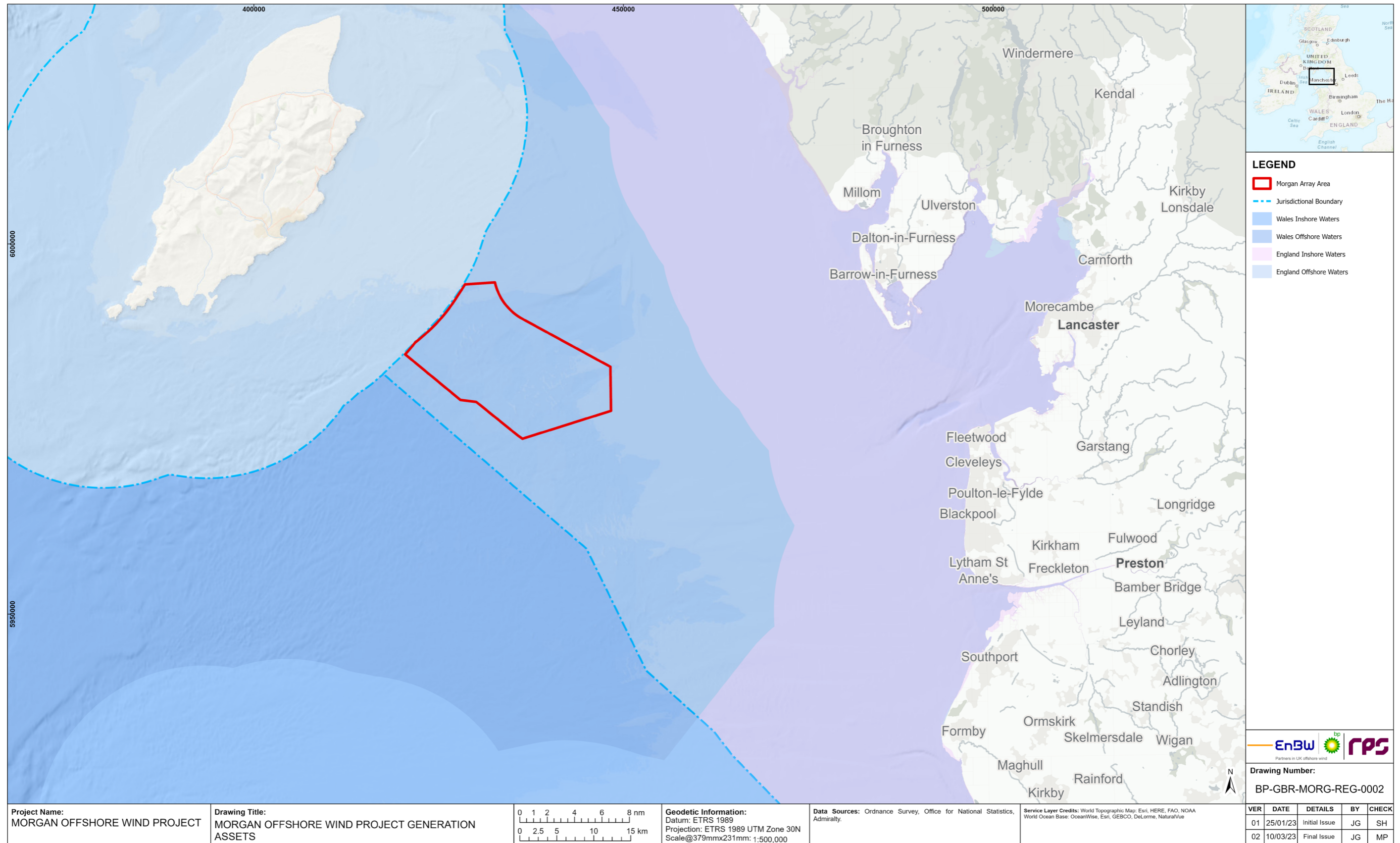


Figure 4.1: Morgan Offshore Wind Project Generation Assets.

4.2 The Crown Estate

4.2.1 Offshore Wind Leasing Round 4

4.2.1.1 As described in volume 1, chapter 1: Introduction of the PEIR, Offshore Wind Leasing Round 4 was instigated by The Crown Estate (TCE) in September 2019, and four Bidding Areas were identified for the development of offshore wind in England and Wales. As part of a competitive tender, EnBW and bp were awarded Preferred Bidder status for two sites within the Northern Wales and Irish Sea Bidding Area.

4.2.1.2 TCE is also the Competent Authority for the Offshore Wind Leasing Round 4 and undertook a Plan Level HRA for the Round 4 Plan (described in section 4.2.2).

4.2.2 TCE Plan Level Habitats Regulations Assessment (HRA)

4.2.2.1 As the Competent Authority under the Habitats Regulations, TCE is required to conduct a plan-level Habitats Regulations Assessment (HRA) for any leasing/licencing activity that constitutes a 'plan'. TCE completed a plan-level HRA (the Round 4 HRA) which assessed the potential impact of the preferred bidding areas that were selected through the Round 4 process on the UK's network of designated sites and protected habitats and species. The Round 4 HRA was finalised in November 2022 with preferred bidders entering into Agreements for Lease (AfL) in January 2023.

4.2.2.2 In the Round 4 HRA TCE identified mitigation and compensation measures to manage potential adverse effects on European Sites potentially affected by the Round 4 Plan. The Round 4 HRA Plan supports decarbonisation and security of the UK's energy supply and government targets. The Crown Estate considered a range of alternative solutions and concluded that there are no feasible alternative solutions to the Round 4 Plan.

4.2.2.3 In addition to mitigation measures secured at the plan level, mitigation has been identified to be considered and implemented at the project level, where there is potential for a Likely Significant Effect (LSE) on a European site. Further information on the potential impact of the Morgan Generation Assets on designated sites is described within the HRA Stage 1 Screening document and the Information to Support Appropriate Assessment which accompanies the PEIR.

4.2.2.4 The key mitigation for offshore export cables within the Round 4 HRA is the consideration of the Export Cable Route Assessment (ECRA) undertaken by Niras (2022). As the project design envelope for the Morgan Generation Assets does not include any export cables the ECRA has not been considered further within this site selection chapter. The transmission assets of the Morgan Offshore Wind Farm Project will be the subject of a separate application for a DCO and site selection and consideration of alternatives for those aspects will be presented as part of that application, which will include consideration of the ECRA.

4.3 Policy context

4.3.1 Climate change and renewable energy

4.3.1.1 The UK government has an ambition to generate 50GW of clean, renewable energy from offshore wind by 2030. The Morgan Generation Assets has a critical role to play, – both in helping the UK to achieve its net zero ambitions, and, specifically, in reaching our offshore wind generation goals.

4.3.1.2 The UK's ambition is to lead the world in combatting climate change, reducing our reliance on fossil fuels and embracing a future where renewable energy powers our homes and businesses. At the centre of this drive is a commitment to reducing UK greenhouse gas (GHG) emissions and reaching net zero. Under the Climate Change Act 2008, the UK committed to a net reduction in GHG emissions of 80% by 2050 against the 1990 baseline in line with the commitments of the Kyoto Protocol. In June 2019, secondary legislation (the Climate Change Act 2008 (2050 Target Amendment) Order 2019) was passed that extended that target to at least 100% against the 1990 baseline. For the UK to meet these ambitions the UK Government needs to work with developers to support proposals to produce clean, renewable energy within the UK. As the Morgan Generation Assets is planned to be operational by 2030 it would significantly contribute to reducing reliance of fossil fuels and reducing GHG emissions by at least 100% against the 1990 baseline.

4.3.1.3 On 7 April 2022, the UK Government published its British Energy Security Strategy (BEIS and Prime Minister's Office, 2022). The strategy builds on the UK net zero target, placing heavy reliance on a renewable and low carbon energy supply with a view to 'bring clean, affordable, secure power to the people for generations to come...'. The strategy plans to accelerate delivery of offshore wind by strengthening the renewable National Policy Statements (NPSs) to reflect the importance of energy security and net zero. It proposes work with an Offshore Wind Acceleration Task Force to work on reducing the consenting and delivery times for offshore wind projects and fast tracking priority projects. Specifically, the strategy states an ambition to deliver up to 50GW of offshore wind by 2030, an increase on previous targets of 40GW. The Morgan Generation Assets would bring clean, affordable, secure power to millions of homes and be a key project to deliver 50GW of offshore wind by 2030.

4.3.1.4 In July 2022, the UK Government published the Pathway to 2030 Holistic Network Design documents, which set out the approach to connecting 50GW of offshore wind to the UK electricity network (National Grid ESO, 2022).

4.3.1.5 There is, therefore, a clear urgent need and policy drivers to bring about secure, clean energy in order to meet the ambitious climate change and carbon reduction targets, through the development of offshore wind energy.

4.3.2 National Policy Statements

4.3.2.1 Planning policy on renewable energy infrastructure is presented in volume 1, chapter 2: Policy and legislation of the PEIR. Planning policy on offshore renewable energy Nationally Significant Infrastructure Projects (NSIPs), specifically in relation to site selection, is contained in the Overarching National Policy Statement (NPS) for Energy (EN-1; DECC, 2011a) and the NPS for Renewable Energy Infrastructure (EN-3, DECC, 2011b).

- 4.3.2.2 NPS EN-1 and NPS EN-3 include guidance on what matters are to be considered in the environmental assessment.
- 4.3.2.3 NPS EN-1 and NPS EN-3 also highlight a number of factors relating to the determination of an application and in relation to mitigation. These are summarised in Table 4.1 below.
- 4.3.2.4 Table 4.1 refers to the current NPSs, specifically NPS EN-1 (DECC, 2011a) and NPS EN-3 (DECC, 2011b). If the NPSs are updated prior to the application for Development Consent, the revised NPSs will be fully considered in relation to site selection within the Environmental Statement.

Table 4.1: Summary of the NPS EN-1 and NPS EN-3 provisions relevant to site selection.

Summary of NPS EN-3 and EN-1 provision	How and where considered in the PEIR
EN-1	
NPS EN-1 paragraph 4.4.1 - As in any planning case, the relevance or otherwise to the decision-making process of the existence (or alleged existence) of alternatives to the proposed development is in the first instance a matter of law, detailed guidance on which falls outside the scope of this NPS. From a policy perspective this NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option.	This chapter does not include a specific section on consideration of reasonable alternatives for the Morgan Array Area but describes how the site selection process was undertaken and how constraints were considered for the site.
NPS EN-1 paragraph 4.4.2 - Applicants are obliged to include in their ES.... information about the main alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility	This chapter does not include a specific section on consideration of reasonable alternatives for the Morgan Array Area but describes how the site selection process was undertaken and how constraints were considered for the site.

Summary of NPS EN-3 and EN-1 provision	How and where considered in the PEIR
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NPS EN-1 paragraph 4.4.3 - Where there is a policy or legal requirement to consider alternatives the applicant should describe the alternatives considered in compliance with these requirements. Given the level and urgency of need for new energy infrastructure, the Secretary of State (SoS) should, subject to any relevant legal requirements (e.g. under the Habitats Directive) which indicate otherwise, be guided by the following principles when deciding what weight should be given to alternatives:

- the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner;
- the SoS should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security and climate change benefits) in the same timescale as the proposed development;
- where (as in the case of renewables) legislation imposes a specific quantitative target for particular technologies or there is reason to suppose that the number of sites suitable for deployment of a technology on the scale and within the period of time envisaged by the relevant NPSs is constrained, the SoS should not reject an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site, and it should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals;
- alternatives not among the main alternatives studied by the applicant (as reflected in the ES) should only be considered to the extent that the SoS thinks they are both important and relevant to its decision;
- alternative proposals which mean the necessary development could not proceed, for example because the alternative proposals are not commercially viable or alternative proposals for sites would not be physically suitable, can be excluded on the grounds that they are not important and relevant to the SoS's decision; and
- it is intended that potential alternatives to a proposed development should, wherever possible, be identified before an application is made to the SoS in respect of it (so as to allow appropriate consultation and the development of a suitable evidence base in relation to any alternatives.

This chapter does not include a specific section on consideration of reasonable alternatives for the Morgan Array Area but describes how the site selection process was undertaken and how constraints were considered for the site.

4.3.3 North West Offshore Marine Plan

- 4.3.3.1 The site selection chapter has also been made with consideration to the specific policies set out in the North West Offshore Marine Plan (MMO, 2021). Key provisions are set out in Table 4.2 along with details as to how these have been addressed within the assessment.

Table 4.2: North West Offshore Marine Plan policies relevant to site selection.

Policy	Key provisions	How and where considered in the PEIR
NW-CO-1	<p>Proposals that optimise the use of space and incorporate opportunities for co-existence and co-operation with existing activities will be supported.</p> <p>Proposals that may have significant adverse impacts on, or displace, existing activities must demonstrate that they will, in order of preference:</p> <ul style="list-style-type: none"> a) Avoid b) Minimise c) Mitigate <ul style="list-style-type: none"> - Adverse impacts so they are no longer significant 	<p>The site selection chapter has considered how the Morgan Generation Assets have been sited to avoid existing marine activities and is investigating opportunities for co-existence.</p> <p>Consideration of specific impacts of the Morgan Generation Assets on receptor groups, avoidance and mitigation has been considered throughout this PEIR document.</p>
NW-CAB-3	Where seeking to locate close to existing subsea cables, proposals should demonstrate compatibility with ongoing function, maintenance and decommissioning activities relating to the cable.	The Morgan Generation Assets has considered the location of existing cable infrastructure within the site selection chapter. Where it is not possible to avoid overlap with cables the project will take steps to ensure co-existence.
NW-REN-1	Proposals that enable the provision of renewable energy technologies and associated supply chains will be supported.	Morgan Generation Assets is a renewable energy project.
NW-REN-3	Proposals for the installation of infrastructure to generate offshore renewable energy, inside areas of identified potential and subject to relevant assessments, will be supported.	Morgan Generation assets is an offshore renewable energy project.

4.3.4 Planning Inspectorate Advice Note Seven

- 4.3.4.1 The Planning Act 2008 (as amended), and related secondary legislation, establishes the legislative requirements in relation to applications for orders granting development consent for NSIPs.
- 4.3.4.2 The Planning Inspectorate Advice Note Seven (Planning Inspectorate, 2020) suggests that the EIA needs to explain: “the reasonable alternatives considered and the reasons for the chosen option taking into account the effects of the Proposed Development on the environment”.
- 4.3.4.3 Natural England and JNCC advice on key sensitivities of habitats and Marine Protected Areas in English Waters to offshore wind farm cabling within Proposed Round 4 leasing areas.
- 4.3.4.4 Natural England and JNCC issued advice in 2019 on potential cable routes associated with the Round 4 seabed leasing for offshore wind. Whilst the Morgan Generation Assets project design envelope does not contain any export cabling, the advice within

the document in relation to marine features and Marine Protected Areas (MPAs) was taken into account during siting of the Morgan Generation Assets.

4.3.4.5 The advice identifies MPA’s at greatest risk from offshore wind cabling. For the Irish Sea identified sites were:

- Solway Firth SAC
- West of Copeland MCZ
- West of Walney MCZ
- Morecambe Bay SAC
- Shell Flat and Lune Deep SAC
- Ribble Estuary SPA
- Dee Estuary SAC/SPA.

4.3.5 Holistic Network Design Review outcome

4.3.5.1 Until 2021, National Grid Electricity System Operator (NGESO) used the Connection and Infrastructure Operations Note (CION) process to coordinate changes needed to the electricity network to accommodate new offshore connections from offshore energy infrastructure.

4.3.5.2 In its 2020 report to parliament, the Climate Change Committee called for government to develop a strategy to coordinate interconnectors and offshore networks for wind farms and their connections to the onshore network and bring forward any legislation necessary to enable coordination (Climate Change Committee, 2020). Following this, the UK government announced the Offshore Transmission Network Review (OTNR) to identify near-term actions and opportunities for offshore windfarm projects to coordinate and thereby address the barriers that the existing offshore transmission regime was considered to present to deployment of offshore wind; the intention being to develop an offshore transmission network that facilitates coordination between offshore wind developments.

4.3.5.3 The output of the OTNR was the Holistic Network Design (HND); an integrated approach for connecting new offshore wind infrastructure to the grid cohesively.

4.3.5.4 The Morgan Offshore Wind Project was scoped into the HND as a Pathway to 2030 Project. The recommended design for the Northwest Region is a combination of collaborative developer-led solutions and single radial connections.

4.3.5.5 In July 2022, the UK Government published the Pathway to 2030 Holistic Network Design documents, which set out the approach to connecting 50GW of offshore wind to the UK electricity network (National Grid ESO, 2022). The output of this process concluded that the Morgan Offshore Wind Project and the Morecambe Offshore Windfarm should work collaboratively to connect the wind farms to the National Grid at Penwortham in Lancashire.

4.3.5.6 Following a Direction by the Secretary of State under s.35 of the Planning Act 2008 (as amended) Morgan Offshore Wind Ltd and Morecambe Offshore Windfarm Ltd will seek development consent for transmission assets comprising shared export cable corridors to landfall and shared onshore export cable corridors to onshore

substation(s) and onward connection to the National Grid electricity transmission network at Penwortham, Lancashire.

4.3.5.7 Site selection and consideration of alternatives in respect of the shared transmission assets will be set out within the ES accompanying the application for Development Consent for the Morgan and Morecambe Offshore Wind Farms Transmission Assets.

4.4 Consultation

4.4.1.1 Stakeholder engagement and public consultation is recognised as vitally important for shaping the approach to development. Engagement has been undertaken with a wide range of stakeholders to refine the process, design and wider spatial constraints and considerations. Morgan Offshore Wind Project is undertaking consultation on refinements within the Morgan Array Area layouts and configurations to minimise any potential impacts to key receptor groups. The Morgan Generation Assets Scoping Report (Morgan Offshore Wind Ltd, 2022), which contained details of the proposed approach to EIA for each topic was submitted to the Secretary of State for BEIS in June 2022. The Applicant received the Scoping Opinion in July 2022 (The Planning Inspectorate, 2022). The Applicant met with a range of stakeholders to discuss their feedback in more detail and to make any necessary amendments to the proposed approach ahead of formal consultation on the PEIR. This process of pre-application consultation will continue between the submission of the PEIR and DCO application and responses will be collated and considered prior to finalising the application for a DCO.

4.4.1.2 The Applicant has an ongoing dialogue with technical stakeholders through the Evidence Plan Process (EPP) to ensure the most recent evidence is being taken into assessments and that stakeholders have an opportunity to raise any issues and suggestions regarding the site selection process. The process provides an opportunity for stakeholders to advise on proposals at an early stage to help mitigate any potential significant effects. As part of this, a steering group has been established, as well as Expert Working Groups (EWGs) to discuss topic-specific issues with relevant stakeholders. EWGs have been established for the following topics:

- Physical processes, benthic ecology and fish and shellfish ecology
- Marine mammals
- Offshore ornithology.

4.4.1.3 In addition to the Evidence Plan Process, a Maritime Navigation Engagement Forum (MNEF) and Archaeology Engagement Forum (AEF) have been established.

4.4.1.4 A summary of the key issues raised during consultation activities undertaken to date specific to Chapter 4: Site selection is presented in Table 4.3 below, together with how these issues have been considered in the production of this PEIR chapter.

Table 4.3: Summary of key consultation issues raised during consultation activities undertaken for the Morgan Generation Assets relevant to site selection.

Date	Consultee and type of response	Issues raised	Response to issue raised and/or were considered in this chapter
June 2022	Marine Management Organisation (MMO) – Scoping Opinion	For any future additional mitigation, the MMO highlights that infrastructure should be positioned to avoid impacts on any features of conservation importance identified during baseline or pre-construction surveys.	The Applicant has undertaken baseline surveys to characterise any features of conservation importance within the Morgan Array Area. Avoidance will be considered for any features of conservation importance during the final windfarm site design.
June 2022	Natural England (NE) – Scoping Opinion	<p>The ES should include a full assessment of the direct and indirect effects of the development on the site'(s) and identify appropriate mitigation measures to avoid, minimise or reduce any adverse significant effects.</p> <p>In order to foster high quality development that respects, maintains, or enhances, local landscape/ seascape character and distinctiveness, Natural England encourages all new development to consider the character and distinctiveness of the area, with the siting and design of the proposed development reflecting local design characteristics and, wherever possible, using local materials.</p>	<p>The Applicant has undertaken baseline surveys to characterise any features of conservation importance within the Morgan Array Area. Avoidance will be considered for any features of conservation importance during the final windfarm site design and a full assessment will be undertaken. Mitigation measures will be considered to avoid, minimise or reduce any potential significant effects (if required) and will be incorporated into the Environmental Statement.</p> <p>The Applicant has considered the character of the area within volume 2; Chapter 15: Seascape, Landscape and Visual Resources.</p>

4.5 Site Selection Process

4.6 Identification of Morgan Windfarm Agreement for Lease area

4.6.1.1 The following section describes the process of identifying the Morgan Offshore Wind Project Windfarm AfL area which was the basis of the Morgan Generation Assets Scoping Report (Morgan Offshore Wind Ltd, 2022).

4.6.2 Offshore Leasing Round 4 process

4.6.2.1 As described in Section 4.2.2 above, TCE launched the Offshore Wind Leasing Round 4 process in September 2019. The Northern Wales and Irish Sea Bidding Area was one of four Bidding Areas identified by TCE through the Offshore Wind Leasing Round 4 process. The Northern Wales and Irish Sea Bidding Area covers an area of approximately 8,500km² (shown in Figure 4.4) and has water depths up to 50m, with an average water depth of 34m.

4.6.2.2 A Bidding Area Report was prepared by TCE that identified the environmental designations within the Northern Wales and Irish Sea Bidding Area and the key species present (e.g. birds and fish). The report also identified a number of other constraints from activities such as fishing, oil and gas, NATS radar, defence and navigation.

4.6.2.3 In order to bid into Round 4, projects were required to meet certain criteria, including around the siting of bids. A summary of the relevant spatial siting requirements is summarized in Table 4.4 below.

Table 4.4: Offshore Wind Leasing Round 4 bidding rules (Crown Estate, 2019).

Offshore Wind Leasing Round 4 criteria	Morgan Offshore Wind Farm compliance
All Projects must be located entirely within a single Bidding Area.	Morgan Generation Assets is located entirely within the North Wales and Irish Sea Bidding Area.
Projects must avoid certain constraints identified within the Bidding Areas, including IMO traffic separation schemes and deep-water channels, existing offshore wind farm agreements, marine aggregate licences, capital and navigation dredging areas and coastal outfalls (Hard Constraints).	The Morgan Array Area is located to avoid all hard constraints as shown in Figure 4.2.
Projects may not be located within 7.5km of an existing offshore wind farm (meaning a wind farm at any stage of development which has been awarded an agreement for lease or lease from The Crown Estate unless the owner of the existing offshore wind farm has given its written consent).	The Morgan Array Area is located at least 7.5km away from existing offshore wind farms as shown in Figure 4.2.

4.6.3 AfL area

4.6.3.1 Prior to the submission of a bid to TCE, detailed consideration of key constraints was undertaken to identify potential project locations within the North Wales and Irish Sea Bidding Area. This was then refined to the Morgan AfL area through further analysis of engineering, environmental, economic and consenting risks. Further study work

was undertaken to understand key issues such as designated sites, shipping routes, other offshore industries and offshore ornithology.

4.6.3.2 The siting of the Morgan Generation Assets was undertaken considering likely constraints, including:

- Ecological designations:
 - Avoidance of overlap with European designated sites including:
 - Special Conservation Area (SAC): Avoidance of Solway Firth SAC, Morecambe Bay SAC and Shell Flat and Lune Deep SAC
 - Special Protection Area (SPA): Decision taken to maintain a 10km offset from the Liverpool Bay SPA (described in 4.6.3.4)
 - Avoidance of Marine Conservation Zones including West of Copeland and West of Walney MCZs.
- Other Sea User considerations:
 - Avoidance of TCE defined 'hard constraints' (described in Table 4.4)
 - Avoidance of direct overlap with oil and gas platforms (nearest platform, Millom West, located ~0.7km from Morgan Array Area)
 - Avoidance of military disposal sites
 - Consideration of shipping and navigation routes
 - Consideration of pipelines and cables infrastructure
- Other constraint considerations:
 - Consideration of wrecks
 - Consideration of aviation constraints (both military and civil aviation)
 - Consideration of seascape, landscape and visual constraints.

4.6.3.3 The Morgan Array Area extent was limited to the north by the need to maintain 7.5km from existing offshore wind farms (Walney and Walney Extensions) as described in Table 4.4.

4.6.3.4 The Morgan Array Area extent was limited to the south by the Mona Agreement for Lease area, which was awarded prior to the Morgan Agreement for Lease area as part of Offshore Leasing Round 4.

4.6.3.5 The Morgan Array Area was limited to the west by the extent of the North Wales and Irish Sea bidding area (see Figure 4.4) and the Isle of Man territorial waters.

4.6.3.6 The Morgan Array Area extent was limited to the east by the presence of existing oil and gas infrastructure associated with the North Morecambe and Dalton fields (see Figure 4.2). The Morgan Array Area extent was also limited to the east by the project decision to maintain a 10km offset from the Liverpool Bay SPA to align feedback from SNCBs within the Offshore Wind Leasing Round 4 Bidding Area Report (v2.0) (Crown Estate, 2020) that projects within 10km of the Liverpool Bay SPA would face very significant consenting risks (see Figure 4.3).

MORGAN OFFSHORE WIND PROJECT GENERATION ASSETS

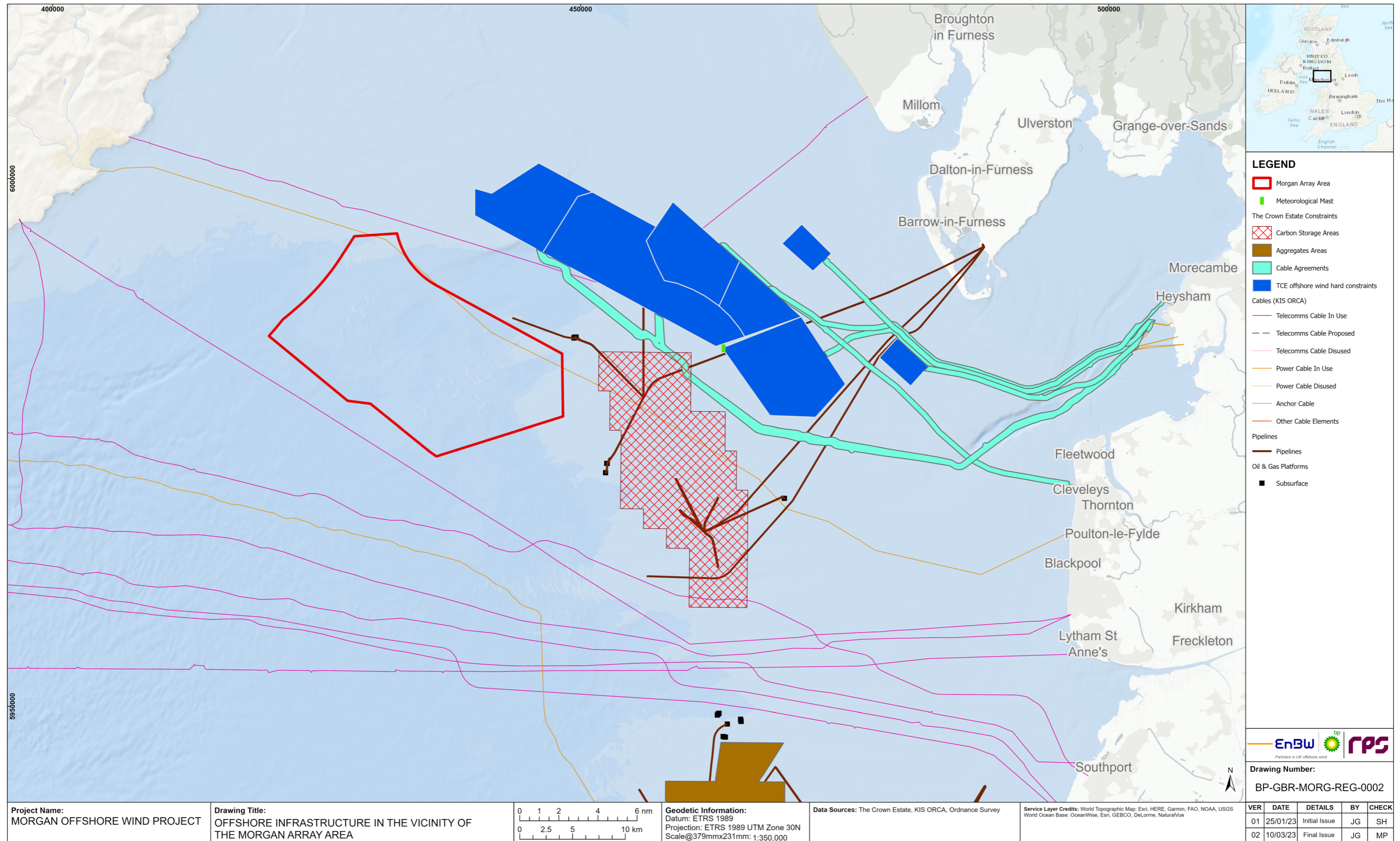


Figure 4.2: Offshore infrastructure in the vicinity of the Morgan Array Area.

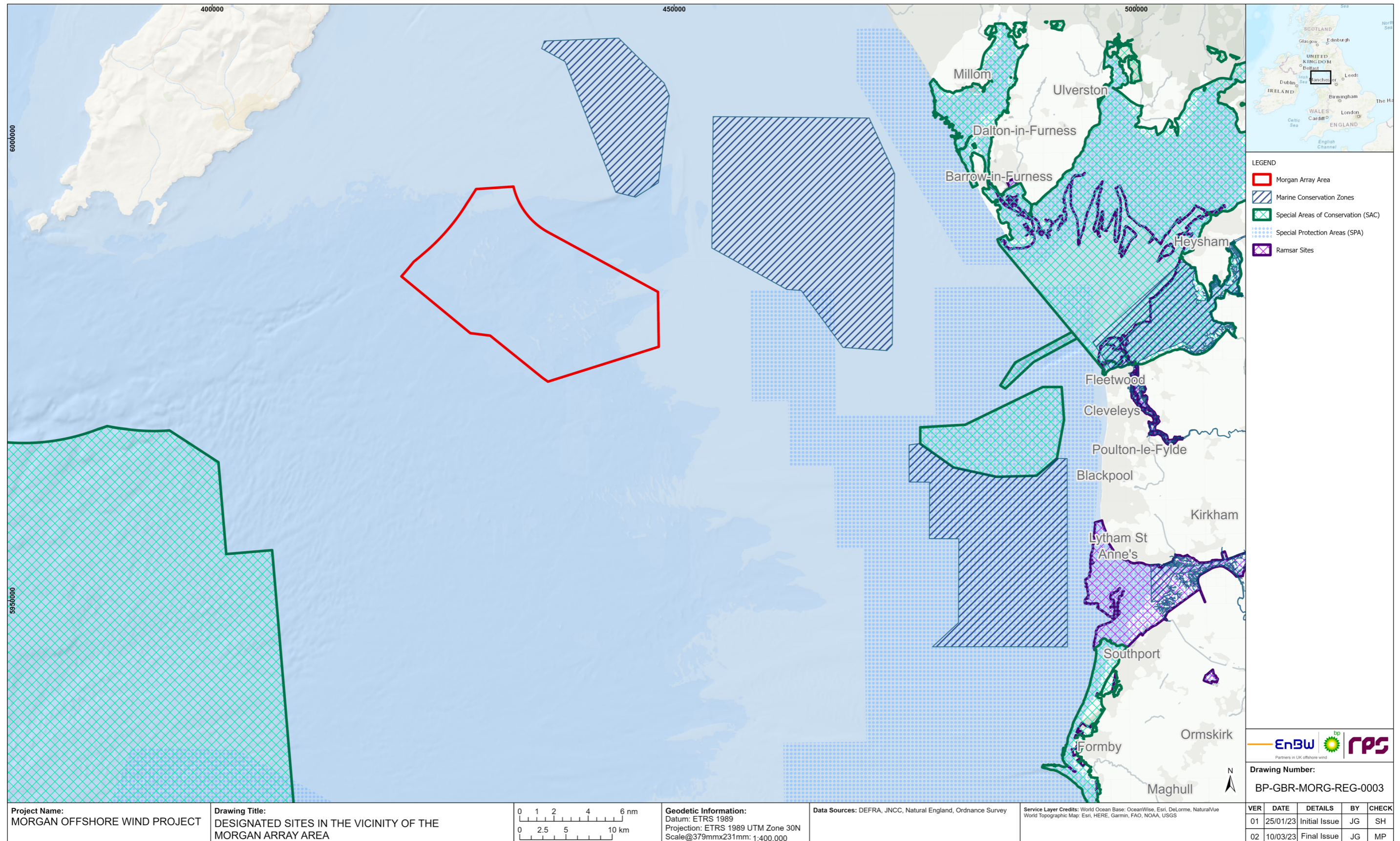


Figure 4.3: Designated sites in the vicinity of the Morgan Array Area.

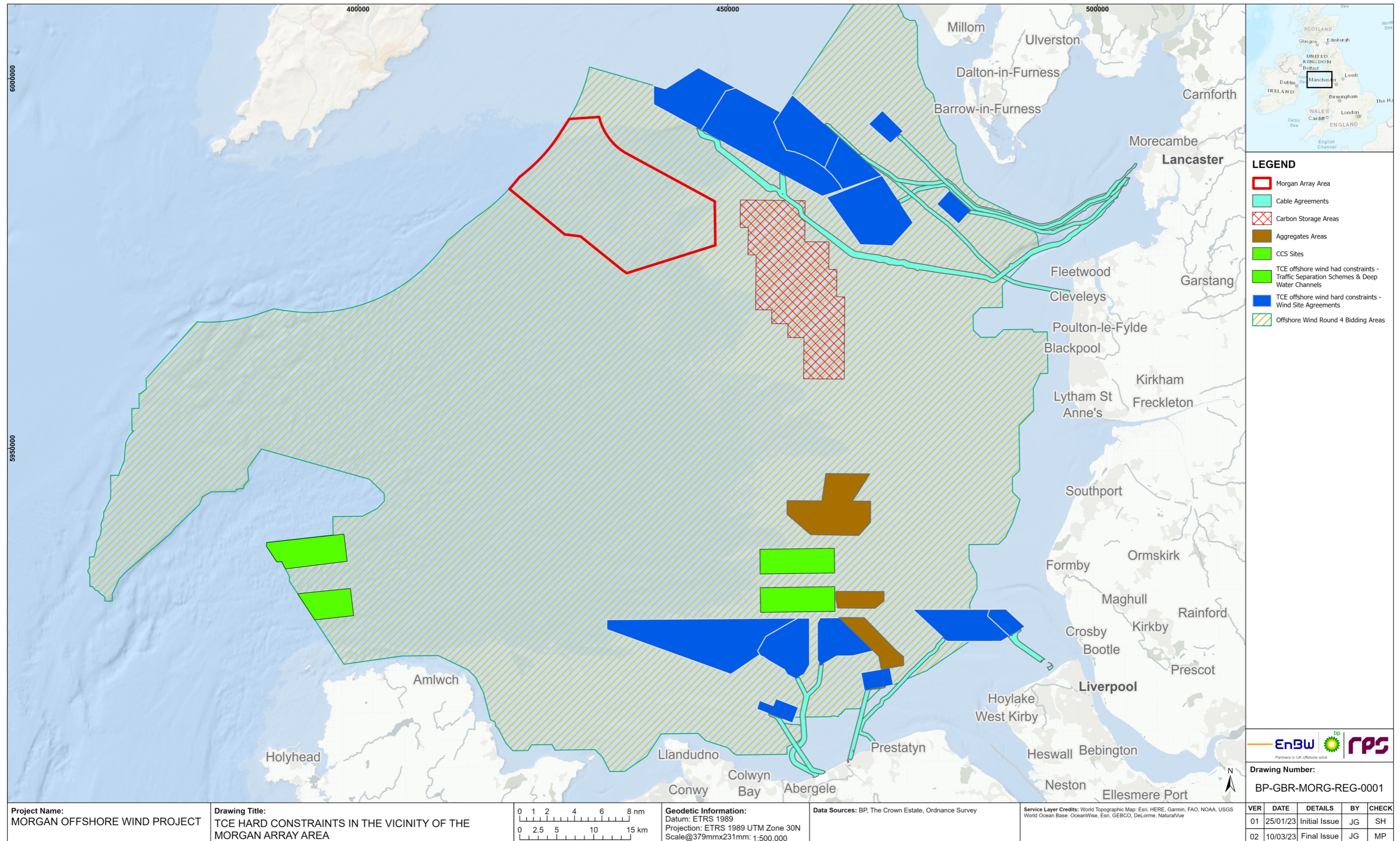


Figure 4.4: TCE hard constraints in the vicinity of the Morgan Array Area.

4.6.4 Refinement of project for PEIR

- 4.6.4.1 The Applicant has not undertaken any refinement of the Morgan Array Area between Scoping and PEIR.
- 4.6.4.2 Further refinements to the Morgan Array Area will be undertaken between PEIR and application submission, as described within Volume 2, Chapter 12: Shipping and Navigation of the PEIR. The final Morgan Array Area will be described in detail within the Environmental Statement that will accompany the application for consent.

4.7 Next steps

- 4.7.1.1 The Applicant will continue to develop and refine the project design as it progresses towards the final application for consent and beyond this as it moves towards construction.
- 4.7.1.2 As the Morgan Generation Assets progresses past the statutory consultation stage, the Applicant will continue engagement with stakeholders, via the EWGs and other consultation as appropriate. The Applicant will continue to keep stakeholders informed about the project design as it evolves.

4.8 References

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